



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada



D119-796-141TRN
Job Sheet 164509



Tel (613) 632-5200

Part No: D119-796-141TRN

Job Qty: 1 ea

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV H IPP REV A RQ 14/06/06 VERIFIED BY DD IPP REV:B 16.05.04 AS PER DWG REV.H DD VERF:JLM

Ship Via:

Bill of Materials

Part/Part Name	Part Note	Serial No	Quantity	Location
D119-796-141TRN Crosstube Turning Detail	DWG REV H IPP REV A RQ 14/06/06 VERIFIED BY DD IPP REV:B 16.05.04 AS PER DWG REV.H DD VERF:JLM		0.000	
D6024-103 Crosstube Material	DWG REV A		0.000	

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/30/17	0.00	0.00	Start up container	
100	Mori Seiki	1 pcs	10/30/17	1.99	3.57	Mori Seiki TL-40	
110	QC	1 pcs	10/30/17	0.00	0.00	QC21	
120	Mori Seiki	1 pcs	10/30/17	0.00	3.57	Mori Seiki TL-40	
130	QC	1 pcs	10/30/17	0.00	0.00	QC21	
140	QC	1 pcs	10/30/17	0.00	0.00	QC8	
145	Crosstubes	1 pcs	10/30/17	0.00	0.81	Crosstube	
150	HandFXtube	1 pcs	10/31/17	0.00	0.67	Crosstube	
160	QC	1 pcs	10/31/17	0.00	0.00	QC7	
170	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	
180	QC21-FG	1 Ea	10/31/17	0.00	0.00	QC21	

Part Op 100 - 1-Fill tube with sand & install plugs on both ends as per Folio FB316 2-Turn first side as per Folio FB316 3-Blend
Descriptions: transition lines only, **do not sand whole tube**: FOLIO REV: AA DWG REV: H *Use mill bastard
file, brush file repeatedly with file card. *Do not use sandpaper coarser than 320 grit.

120 - 1-Turn second side as per Folio FB316 2-Blend transition lines only, **do not sand whole tube**: 3-Remove sand
and plugs 4- scribe batch # and part # as per dwg

145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

150 - 1- handfinish X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED
SCOTCH BRITE

170 - LOCATION : LG014

Job BOM

Part / Item	Component Name	Quantity	Operation	Special Comments
D6024-103	Crosstube Material	1 Ea (1 ea)	90-Start up Operation	

B150 732

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D6024-103	1	0	0	0

DART
AEROSPACE
S013186

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com



Crosstube Turning Detail

PART NO: D119-796-141TRN

Revision:

Operation: Start up Operation

Change No:

Mfg Date: 11/23/17

Job No: 164509

2

Part Specifications

Specifications could not be found.

Plex 10/2/17 8:47 AM Dart.lajeunesse.marie

Work Order ID 164509***164509***

Page 1

Wednesday, July 19, 2017 2:46:27 AM

Item ID: D119-796-141TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Turning Detail

Start Date: 7/19/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/15/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: **DAS 21** Date: **JUL 20 2017**

Tooling:

Date:

Run Start ***NR1***QC: **9-89**

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D119-796-141	H
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100

1.00

100

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

1.15

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs on both ends as per Folio FB316

2-Turn first side as per Folio FB316

3-Blend transition lines only, **do not sand whole tube**:

FOLIO REV: _____

DWG REV: _____

*Use mill bastard file, brush file repeatedly with file card.

*Do not use sandpaper coarser than 320 grit.

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : 17/12/4		Step #: 100		QTY Effective :		MRB (QSI042) Approval			
Description Work Order Deviation Wall thickness is below nominal measurement.				Disposition Acceptable mat'l is within allowable of DB024. Not high stress region of tube. Orient so minimum wall thickness is on neutral axis (ie up/down in bend).				DAS 12 17/12/4 9.89 Completed By DAS 12 17/12/4 9.89 Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

Wednesday, July 19, 2017 2:46:27 AM

Item ID: D119-796-141TRN

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Turning Detail

Start Date: 7/19/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 8/15/2017 Req'd Qty: 1.00 *1*

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120

0.00

120

MORI SEIKI CNC LATHE LARGE

3.58

Mori Seiki

Memo

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FB316

2-Blend transition lines only, **do not sand whole tube:**

*Use mill bastard file, brush file repeatedly with file card.

*Do not use sandpaper coarser than 320 grit.

FOLIO REV: _____

DWG REV: _____

3-Remove sand and plugs

4- scribe batch # and part # as per dwg

130

QC2- Inspect parts off machine FAI/FAIB

0.00

130

QC

Memo

0.00

Quality Control

Work Order ID 164509

Wednesday, July 19, 2017 2:46:27 AM

164509

Page 3

Item ID: D119-796-141TRN**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** Crosstube Turning Detail**Start Date:** 7/19/2017 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 8/15/2017 **Req'd Qty:** 1.00***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC8- Inspect parts - second check	0.00							
140									
QC	Memo	0.02							
Quality Control									
145		0.00							
145									
Crosstubes	Memo	0.54							
Crosstubes	GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.								
150		0.00							
150									
HandFXtube	Memo	1.77							
Hand Finishing Crosstubes	1- PRESSURE WASH X-TUBE INSIDE AND OUT								
	2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED SCOTCH BRITE								

Wednesday, July 19, 2017 2:46:27 AM

Item ID: D119-796-141TRN

Accept

N900040100

Setup Start *NIS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Turning Detail

Start Date: 7/19/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 8/15/2017 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160 QC7-Inspect Chemical Conversion Coat

0.00

160

0.02

QC Memo

Quality Control

170	0.00
-----	------

170

Packaging

0.00

Packaging Memo

Packaging LOCATION : LG014

180	QC21- Final Inspection - Work Order Release	0.00
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180

QC21- Final Inspection - Work Order Release

0.10

QC Memo

Quality Control

Picklist Print

Page 1

Wednesday, July 19, 2017 2:46:31 AM

Work Order ID: 164509

164509

Parent Item: D119-796-141TRN

D119-796-141TRN

Parent Item Name: Crosstube Turning Detail

Start Date: 7/19/2017

Required Date: 8/15/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV A RQ 14/06/06 VERIFIED BY DD
REV:B 16.05.04 AS PER DWG REV.H DD VERF:JLM

IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6024-103		Manufactured	No			100	Each	50.0000	1	1			
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D6024-103

Crosstube Material

Location

Loc Qty

Loc Code

LG003

50

139410

1

150732

49

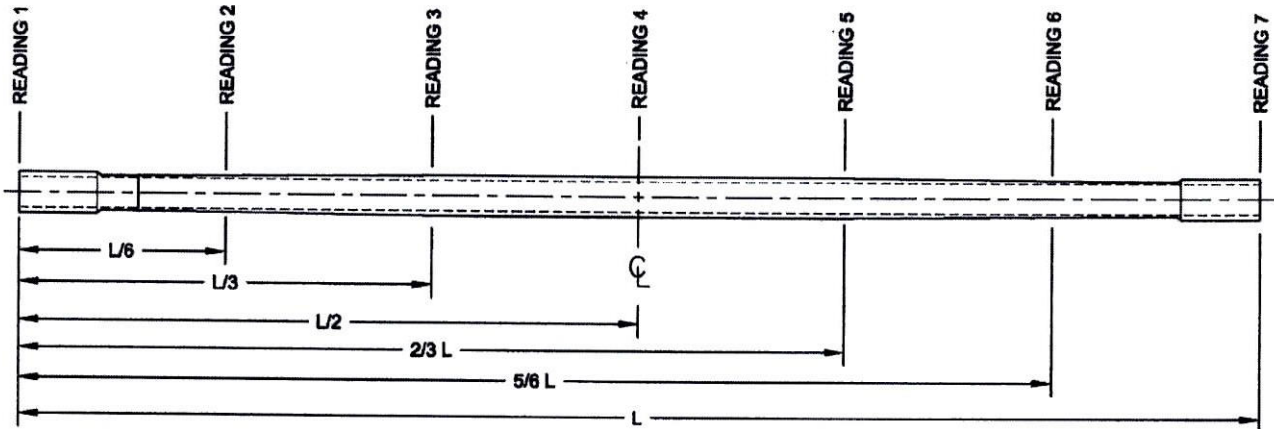
DART AEROSPACE LTD		Work Order:	164509
Description: Crosstube Assembly (AW119 MKII Fwd)		Part Number:	D119-796-141TRN
Inspection Dwg: D119-796-141 Rev: H		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	6.00	+/-0.030	5.920		✓	VERN 08	
	2.516	+/-0.005	2.519	✓			
	2.333	+0.005/-0.000	2.336	✓			
	2.333	+0.005/-0.000	2.336	✓			
	2.408	+0.005/-0.000	2.412	✓			
	2.502	+0.005/-0.000	2.507	✓			
	2.596	+0.005/-0.000	2.599	✓			
	2.596	+0.005/-0.000	2.601	✓			
SIDE B	6.00	+/-0.030	5.913		✓	VERN 08	
	2.516	+/-0.005	2.521	✓			
	2.333	+0.005/-0.000	2.3375	✓			
	2.333	+0.005/-0.000	2.3375	✓			
	2.408	+0.005/-0.000	2.413	✓			
	2.502	+0.005/-0.000	2.5065	✓			
	2.596	+0.005/-0.000	2.598	✓			
	2.596	+0.005/-0.000	2.601	✓			
	102.26	+/-0.020	102.26	✓		TAPE	

DART AEROSPACE LTD		Work Order: 164509
Description: Crosstube Assembly (AW119 MKII Fwd)		Part Number: D119-796-141TRN
Inspection Dwg: D119-796-141 Rev: H		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	253	258	255	252	.006	0.030"
READING 2 L= 17.043	169	197	179	156	.041	
READING 3 L= 34.087	259	283	273	247	.036	0.063"
READING 4 L= 51.13	288	292	296	292	.008	
READING 5 L= 68.173	255	269	274	260	.019	
READING 6 L= 85.217	158	179	183	162	.025	0.030"
READING 7 L= 102.26	249	262	262	248	.014	

Dwg Δ
Avg = 6.175
0.179 0.023
0.268 0.02

Calibration Result

Actual Block Thickness: 100-400

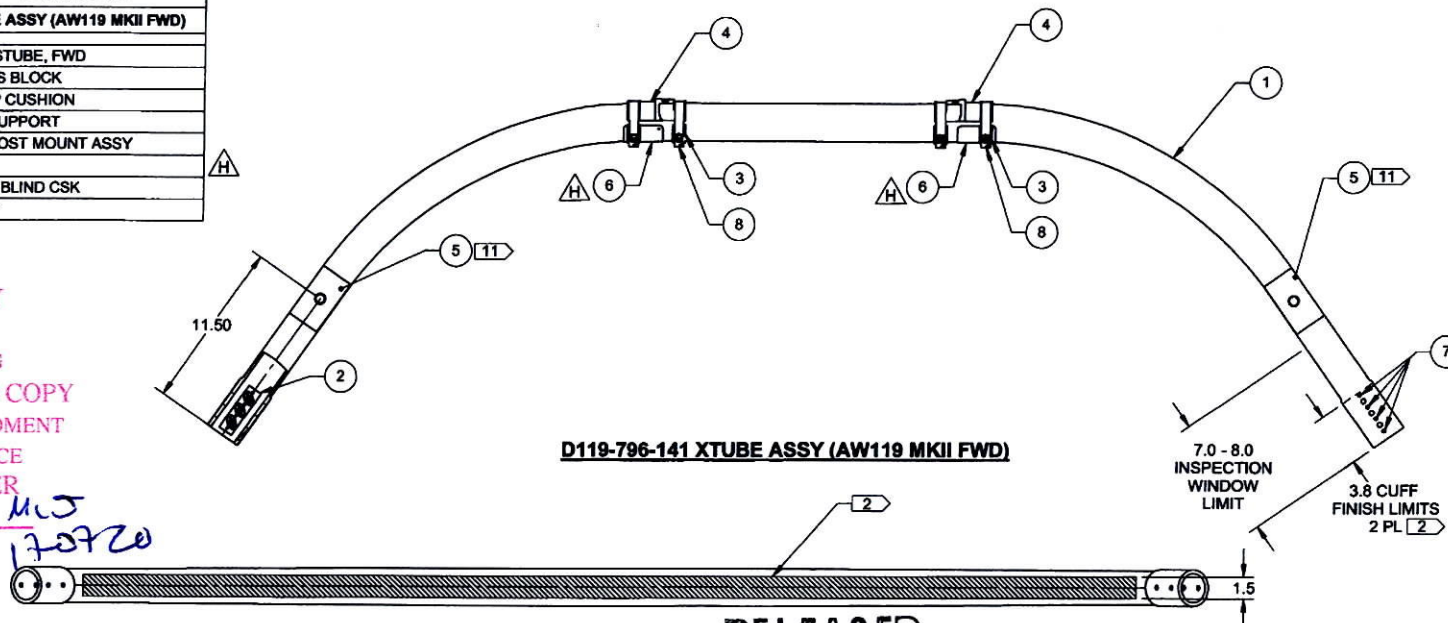
Sitescan 250 Measured Thickness: 100-400

Measured by: PMP	Audited by: JW	Preliminary Approval:
Date: 2017-10-25	Date: 17-12-4	Date:

Rev	Date	Change	Revised by	Approved
A	15.04.14	New Issue (P/O D119-796-101)	KJ	
B	15.05.14	Tolerances revised per Dwg Rev G	KJ	
C	16.05.27	Dwg Rev updated	KJ	
D	16.09.13	Tolerance revised for Reading 3, 6 & 7	KJ	

ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-141	XTUBE ASSY (AW119 MKII FWD)
1	1	D119-796-141BND	CROSSTUBE, FWD
2	4	D2873-043	RADIUS BLOCK
3	4	D5123-3	CLAMP CUSHION
4	2	D5124-1	FWD SUPPORT
5	2	D5152-041	FWD POST MOUNT ASSY
6	2	D5305-1	SHIM
7	16	CR3212-4-08	RIVET, BLIND CSK
8	4	MS21920-24	CLAMP

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 164509 MJS
170720



RELEASED
2015-11-04
EW 15-142

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY MATTE CLEAR COAT PER QSI 005 4.2
MASK D5124-1 FWD SUPPORTS, D5305-1 SHIMS AS WELL AS UNDERSIDE OF CROSSTUBE AS SHOWN (B3-1, HATCHED AREA),
PAINT OUTSIDE PER DART QSI 005 4.2 AFTER APPLYING CLEAR COAT
DO NOT APPLY FINISH (PAINT OR CLEAR COAT) TO CUFFS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-141" AND BATCH NUMBER ON INSIDE OF CUFF PER QSI 044 6.4
- 7) WEIGHT: 18.54 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS SCRATCHES, NICKS OR DENTS.
DEFECTS UP TO 0.005 MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) PRIOR TO FINISHING, ABRASE MATING SURFACES OF D5124-1 FWD SUPPORTS AND CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. APPLY A 0.1 MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE D5124-1 FWD SUPPORTS AND INSTALL AT AN 8.4" OFFSET FROM THE CROSSTUBE BENDING PLANE. INSTALL THE MS21920-24 CLAMPS AND D5123-3 CLAMP CUSHIONS WHILE WET.
- 10) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY, THE NUT IS FACING AFT AND HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-041 WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. INSTALL D5152-041 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. LOCATE D5152-041 USING TOOL DT10089.
- 12) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5305-1 SHIM WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. INSTALL D5305-1 SHIM WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. USE ADDITIONAL TEMPORARY MS21920-24 CLAMP TO APPLY CLAMPING PRESSURE FOR 72 HOURS.

H	ADD D5305-1 SHIM, D6024-103 WAS D6005-103, D5124-1 NOW INSTALLED ON PRIMER	AP	15.10.13
G	FINISHING ORDER ADJUSTED, CR3212-4-08 WAS -07, CUFF DIA TOLERANCE INCREASED TO +/- 0.005	AP	15.04.24
F	REMOVED PRIME/PAINT ON CUFFS, 2.516 WAS 2.500 (C8-5)	AP	15.02.03
E	D5152-041 FWD STEP POST ASSY WAS D5150-1 STEP POST, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER, ANGLE (B7-2) DIMENSIONED FROM NEW DATUM	DB	15.01.15
D	ADD D5150-1 STEP POST (2X), MOVED INSPECTION WINDOW DETAIL TO SHEET 1, MODIFIED NOTES ON SHT 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WERE CR3212-4-09, 7.5 DEG CUFF ANGLE OFFSET REMOVED (SHT 3), CUFF DIAMETER ON D119-796-141TRN REDUCED TO 2.500, ADDED INSPECTION WINDOW (B7-3), ADDED SHT 4	AP	14.10.23
B	ADDED D2873-043 RADIUS BLOCK, CR3212-4-09 RIVETS, ADDED SKIDTUBE REFERENCE FOR LOCATING CUFF HOLES, RE-ORGANIZED NOTES AND REMOVED REDUNDANT INFORMATION	AP	14.09.02
A	NEW ISSUE	AP	14.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	AP		
DRAWN	AP		
CHECKED	AJS		
MFG. APPR.	JLM		
APPROVED	WM		
DE APPR.	DS		
DATE	15.10.13		

APPROVED

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

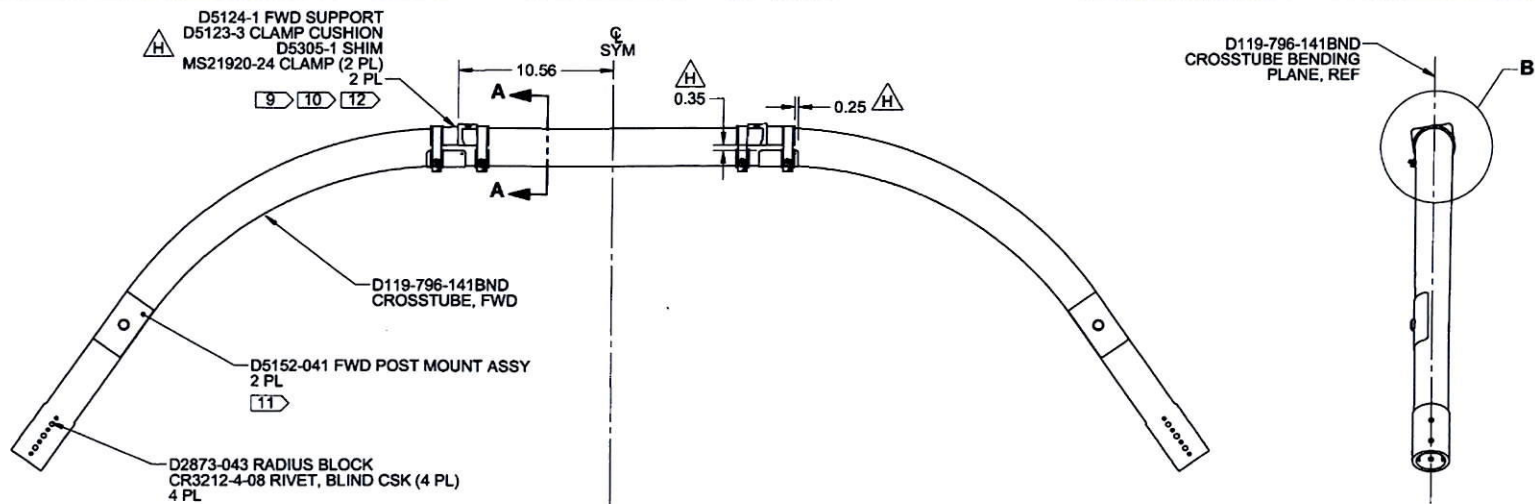
DRAWING NO.
D119-796-141

REV. H
SHEET 1 OF 8

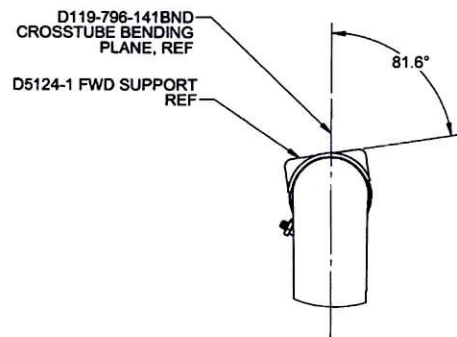
TITLE
XTUBE ASSY (AW119 MKII FWD)

SCALE
NTS

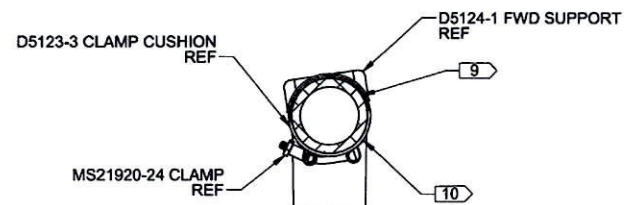
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D119-796-141 XTUBE ASSY (AW119 MKII FWD)



DETAIL B
SCALE 2X

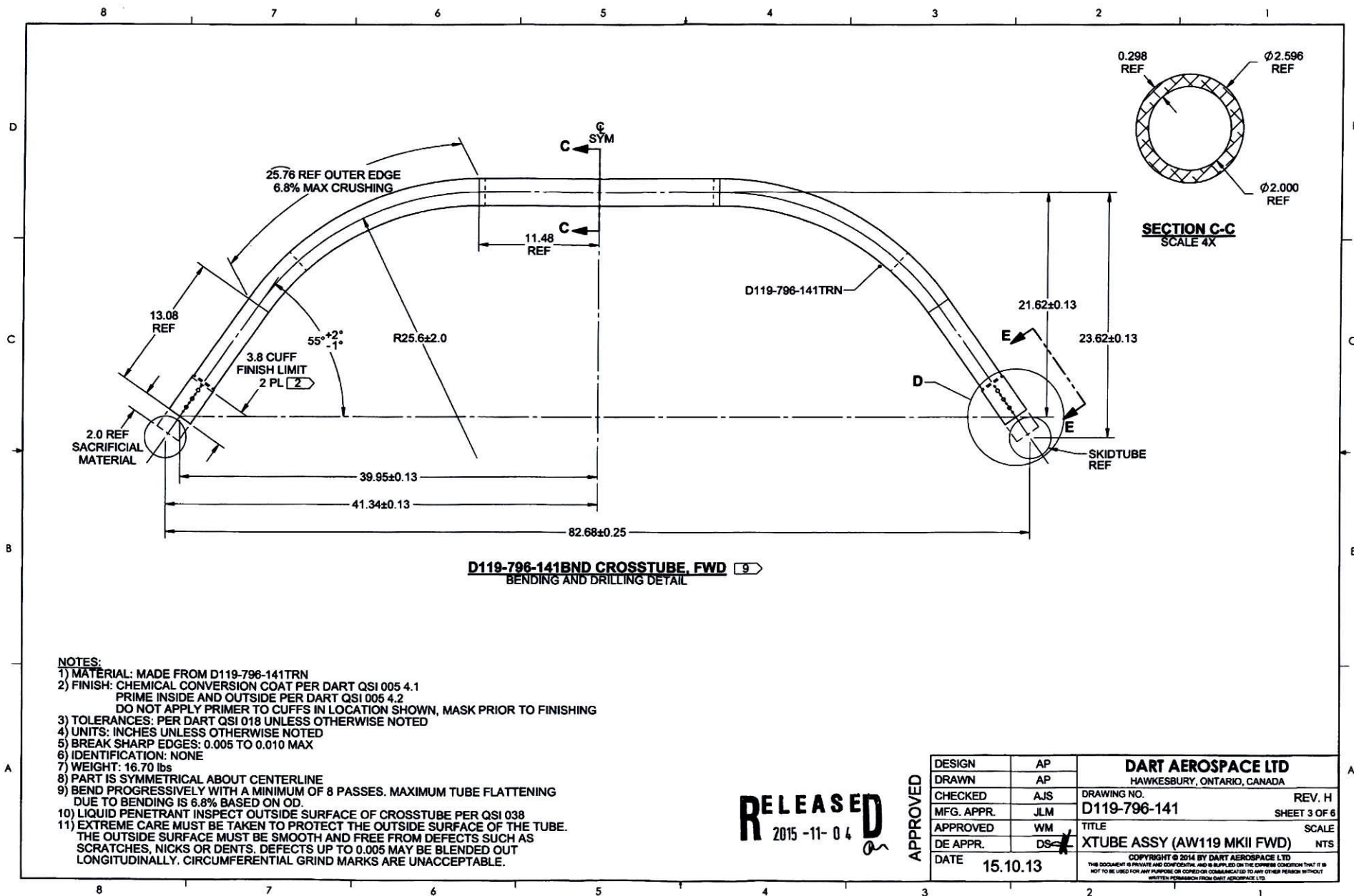


SECTION A-A
SCALE 2X

RELEASED
2015-11-04

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 2 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
DATE	15.10.13	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



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2015-11-04

APPROVED

8 7 6 5 4 3 2 1

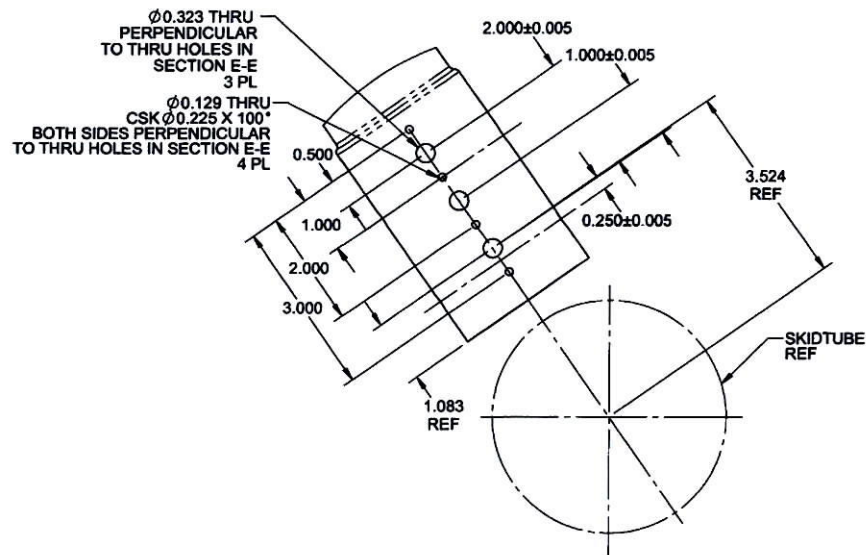
D

C

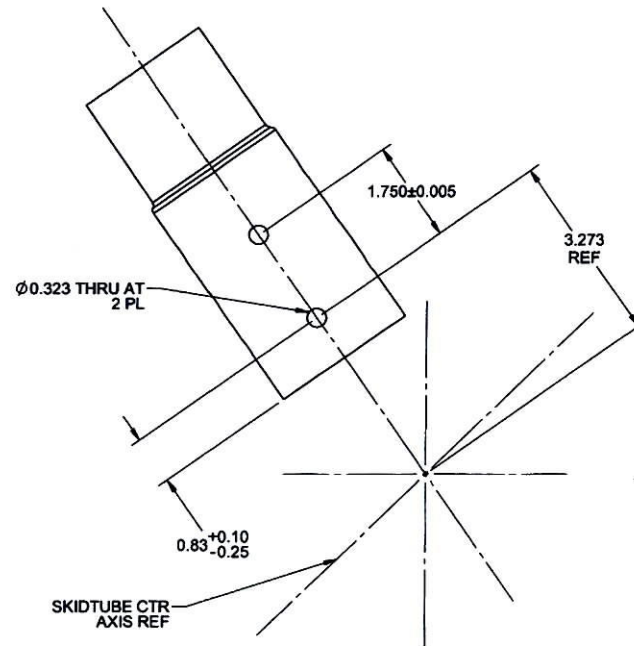
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A

8 7 6 5 4 3 2 1



VIEW D
SCALE 4X



VIEW E-E
SCALE 2X

RELEASED
2015-11-04

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 4 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
DATE	15.10.13	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

D

C

B

A

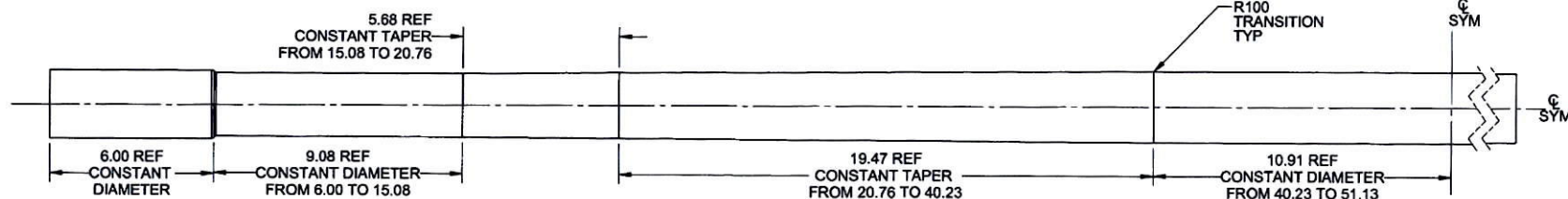
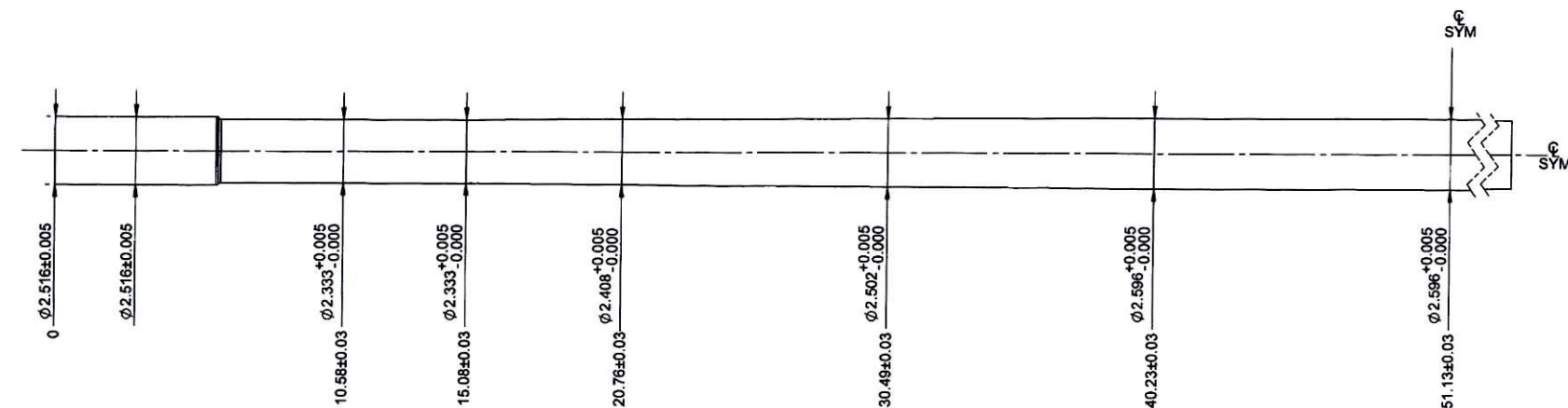
8 7 6 5 4 3 2 1

D

C

B

A



D119-796-141TRN CROSSTUBE, FWD

NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6024-103 (PREFERRED) OR D6005-103
FINISHED LENGTH = 102.26 ±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 16.70 lbs
- 8) PART IS SYMMETRICAL ABOUT CENTERLINE

RELEASED
2015-11-04

APPROVED

DESIGN	AP	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 5 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
DATE	15.10.13	COPYRIGHT © 2014 BY DART AEROSPACE LTD	
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